Preface

The information presented in this manual is provided as a guide to those installing, inspecting, and testing plastic natural gas service lines within the Peoples’ service territory.

The most current version of this manual can be found on the Peoples website at the following addresses:

www.peoples-gas.com/plumbers

The requirements set forth in this manual are intended to ensure compliance with Title 49 of the Code of Federal Regulations (CFR) Department of Transportation Part 192, “Transportation of Natural Gas and Other Gas by Pipeline: Minimum Federal Safety Standards” (49 CFR 192), Peoples’ Policies and procedures, and local building codes. However, it should be noted that the information presented is not intended to address all local code requirements.

Failure to adhere to the following guidelines may result in forfeiture of installation privileges in Peoples’ service territories.
Revision History

This most current version of this manual replaces all prior installation instructions.
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1. Service Line Installer Requirements

a) Operator Qualification

i. Federal Pipeline Regulations, 49 CFR Part 192, require that ALL individuals conducting replacement, renewal, maintenance, and repair activities on pipeline facilities, to include the customer service line, be "Qualified" to perform the tasks. To be "Qualified," the individual must be evaluated to assure they are capable of performing the tasks properly and safely, in accordance with Peoples’ procedures, utilizing approved materials. Further, they must be able to properly recognize and react to any abnormal operating condition they may encounter while performing these tasks. The qualifications associated with service line work include a variety of covered tasks, for which Peoples has determined three years is the appropriate re-qualification interval. However, Federal Pipeline Safety Regulations dictate a one-year interval for joining of plastic pipe. Therefore:

(1) A Service Line Installer (SLI) must qualify in all covered tasks initially and at least every three years.

(2) Peoples’ service line qualification program includes a qualification to join plastic pipe using mechanical (stab and compression) fittings. 49 CFR 192.281 - .287 addresses plastic pipe joining and requires each operator to establish a method to determine “that each person making joints in the operators system is qualified in accordance with this section”. This task has an annual re-qualification requirement. SLI’s will need to re-qualify annually and remain in good standing with this requirement or they will be removed from the approved SLI’s listing.

ii. Currently, Peoples has authorized the following third parties to perform qualification evaluations for work in its service territory:

(1) Utilities Technology International (UTI)
   Phone: 1-614-482-8080
   www.uti-corp.com/training.html

(2) Professional Utility Resources (PUR)
   Phone: 1-216-870-2707
   www.pur-co.com

To schedule for an evaluation, please contact one of the above listed evaluators for information regarding their next session in your area.
iii. The DOT Federal Pipeline Safety Regulations governing Operator Qualification apply to work upstream of the meter. Plumbers and contractors performing work on customer-owned houseline downstream of the meter are not covered by the Operator Qualification requirements, though they are subject to the requirements of the National or International Fuel Gas Code (See drawing below).

Locator Wire: 8 gauge solid copper, yellow thermoplastic insulation only. Locator wire continuity will be verified before service is connected.
b) Drug and Alcohol Programs

i. Department of Transportation - Pipeline and Hazardous Materials Safety Administration’s (DOT- PHMSA), 49 CFR Part 199 regulations also require all persons performing pipeline related work to be enrolled in an approved Drug and Alcohol Testing Program.

ii. There are several components required in order to comply with the regulations regarding Drug and Alcohol Programs. Some examples are:

1. A DOT-PHMSA Anti-Drug and Alcohol Misuse Prevention Plan
2. Pre-employment and random testing for prohibited substances
3. Post-accident and reasonable cause testing for alcohol and prohibited substances
4. Training
5. Recording keeping
6. Employee Assistance Program (EAP)

iii. While some contractors are known to self-administer their company’s drug and alcohol program, the majority joins a consortium in order to comply with these Drug and Alcohol testing requirements. There are several available to provide the administration of these regulatory requirements. Although we do not endorse one consortium, below is a listing of several national consortia. Please contact them by phone or mail, if interested.

<table>
<thead>
<tr>
<th>Service Provider</th>
<th>Address</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipeline Testing Consortium, Inc.</td>
<td>9 Compound Drive, Hutchinson, KS 67502</td>
<td>1-800-294-8758</td>
</tr>
<tr>
<td>D.D.T.A. Services, Inc.</td>
<td>P.O. Box 461, East Palestine, OH 44413</td>
<td>1-800-488-3382</td>
</tr>
<tr>
<td>Spectrum Medical Services, Inc.</td>
<td>6505 Mars Road, Cranberry Township, PA 16066</td>
<td>1-800-253-5077</td>
</tr>
<tr>
<td>Substance Abuse Management, Inc.</td>
<td>500 North 19th Street, Milwaukee, WI 53233</td>
<td>1-800-247-7264</td>
</tr>
<tr>
<td>Bem Enterprises, Inc.</td>
<td>145 Eagle Avenue, Indiana, PA 15701</td>
<td>1-800-862-2191</td>
</tr>
<tr>
<td>Advantage Resources</td>
<td>Route 30 East, Greensburg, PA 15601</td>
<td>1-724-600-0180</td>
</tr>
<tr>
<td>I.E.B.T. Corporation</td>
<td>P.O. Box 266, Mogadore, OH 44260</td>
<td>1-800-628-5106</td>
</tr>
<tr>
<td>Ameritest</td>
<td>1221 Granville Pike, Lancaster, OH 43130</td>
<td>800-782-8378</td>
</tr>
<tr>
<td>D.D.T.A. Services, Inc.</td>
<td>P.O. Box 461, East Palestine, OH 44413</td>
<td>1-800-488-3382</td>
</tr>
<tr>
<td>Integrity Verifications, Inc.</td>
<td>7515 Pearl Road, Cleveland, OH 44130</td>
<td>1-800-914-2659</td>
</tr>
</tbody>
</table>
iv. Peoples has contracted with Veriforce to provide oversight of contractor operator qualification and SLI Drug & Alcohol programs. Whether you self-administer or join a consortium, your plans and testing data must be reviewed and approved by Veriforce.

(1) Steps to Getting Started in a DOT-PHMSA Anti-Drug and Alcohol Misuse Program:

- Make the decision to self-administer or join a consortium.
- Obtain written PHMSA Anti-Drug and Alcohol Misuse Plans.
- Forward copies of your company’s PHMSA Anti-Drug and Alcohol Misuse Plans to Veriforce (Peoples’ Drug and Alcohol Monitoring Service) for review.
- Veriforce will review the program documents and notify Peoples of your status when satisfactory.

(2) If you have questions or need additional information contact:

Veriforce
Drug and Alcohol Division
19221 I-45 South, Suite 200
Shenandoah, TX 77385
Toll Free: 800.426.1604 x32
Email: drugalc@veriforce.com

2. APPROVED MATERIALS

Please note that Peoples prefers and recommends that services are constructed of plastic materials when possible. Peoples approved materials are available from MRC Global, as well as other plumbing suppliers. Please refer to pipe sizing charts (pages 27-37) prior to service installation to ensure adequate gas capacity.

a) Plastic Pipe for Systems Operating at 500 SCFH or Less

i. New Services

(1) Systems Operating at 5 – 100 psig:
- 1/2” CTS .090W PE3408/4710 Coiled

(2) Systems Operating a 0 – 60 psig:
- 1” CTS .099W PE2406/2708 Coiled
- 1-1/4” IPS DR 10 PE2406/2708 Coiled
- 2” IPS DR11 PE 2406/2708 Coiled or Stick
(3) Systems Operating at 0 – 100 psig:
   • 1" CTS .101W PE3408/4710 Coiled
   • 1-1/4" CTS .121W PE3408/4710 Coiled
   • 2" IPS DR 11 PE 3408/4710 Coiled or Stick

(4) Larger pipe sizes installed per Peoples’ main line requirements.

ii. Renewed Services

(1) Systems Operating at 5 – 100 psig:
   • 1/2" CTS .090W PE3408/4710 Coiled

(2) Systems Operating at 0 – 60 psig:
   • 1" CTS .099W PE2406/2708 Coiled
   • 1-1/4" IPS DR 10 PE2406/2708 Coiled
   • 2" IPS DR11 PE 2406/2708 Coiled or Stick

(3) Systems Operating at 0 – 100 psig:
   • 1" CTS .101W PE3408/4710 Coiled
   • 1-1/4" CTS .121W PE3408/4710 Coiled
   • 2" IPS DR 11 PE 3408/4710 Coiled or Stick
   • Larger pipe sizes installed per Peoples’ main line requirements.

(4) Larger pipe sizes installed per Peoples’ main line requirements.

iii. Peoples approved plastic pipe manufacturers:
   • Performance Pipe DriscoPlex® – All standards
   • US Poly Company (Uponor) – All standards
   • Polypipe by Dura-Line – All standards
   • Charter Plastics – All standards
   • Oil Creek Plastics – 1-1/4” IPS and below

Note: As of March 6, 2015, medium-density (yellow) polyethylene plastic pipe over three years old and/or high-density (black) polyethylene plastic pipe over ten years old from date of manufacture, is not suitable for use in the Peoples’ pipeline system.
b) Riser Specifications

i. Anodeless Meter Riser

(1) 1” MPT (Male Pipe Thread) OR 1-1/4” MPT, Outlet to match meter set, Inlet to match plastic service line standard.
  • Use bracket for support

ii. The following are the names of manufacturers whose materials meet Peoples’ riser specifications:

(1) Honeywell/Perfection Corporation – All sizes (both factory and field fit)
(2) Continental – Anodeless (Rigid) Meter Risers only - All sizes (factory fit only)
(3) Energy Control Systems – All sizes Anodeless Flexible and Rigid Meter Risers (factory fit only)

c) Locator Wire and Warning Tape

Peoples’ current Locator wire installation requirements are as follows:

i. Locator Wire

(1) Use continuous lengths of approved Locator wire.
  • # 8 AWG (or larger diameter) solid copper wire with yellow thermoplastic coating.
    • Peoples Part # 44000740
    • MRC Global Part # 6331-0801

ii. Wire Connectors

(1) Must be manufactured for use below ground and in wet locations and be appropriate for the size and number of wires being connected.
  • Wire Nuts
    • Connector, Locator Wire, # 8 AWG w/ Corr Inhibitor for Underground and Wet Locations, Yellow, DryConn P/N 31556
    • Peoples Part # 42111954
    • MRC Global Part # 8816-4750
  • Bonding Lugs
    • Connector, Locator Wire, Direct Bury Lug, # 8 AWG, 50V max, For Underground Use, Waterproof / Corrosion Proof, Yellow, DryConn P/N 90120, Peoples Part # 42106730
iii. Bonding Pipe Clamps

(1) To be used to attach Locator wire to end of casing on replacement installations.
   - Clamp, Service line, w/ Wire Attachment and Pin, For Use w/ Locator Wire, 1- 4” Pipe Diameter
     - Peoples Part # 42111955
     - MRC Global Part # 6196-6675

iv. Wax Wrap, Corrosion Resistant Coating

(1) Used to wrap Locator wire bonding clamps attached to casing to prevent corrosion.
   - Primer, Trenton Wax, Brown, Surface conditioner for underground metal surfaces.
     - Peoples Part # C0180884
     - MRC Global Part # 6269-4040
   - Wax Wrap, Trenton #1, Brown, For Underground Use
     - Peoples Part # C0958677
     - MRC Global Part # 6269-4029

v. Warning Tape

(1) 6 inch Plastic, Yellow, Warning, “CAUTION – GAS PIPE BELOW”
   - Peoples Part # C0727800

d) Service Head Adapters

i. Used when replacing a service line to an inside meter by insertion methods.

(1) Adapter, 1-1/4” FPT (Female Pipe Thread) x 1” CTS, 0.99W COMP x 1-1/2” MPT, Service Head
   - Peoples Part # C0043527
   - Honeywell/Perfection Part # 71162

(2) Adapter, 1-1/2” FPT x 1” CTS, 0.99W COMP x 1-1/2” MPT, Service Head
   - Peoples Part # C0043529
   - Honeywell/Perfection Part # 71183

NOTE: Please consult with local office regarding use of adapters not listed.
e) Houseline

Natural gas houseline piping materials and components shall be acceptable to the authority having jurisdiction. Peoples is not a testing or approval agency. Peoples accept houseline piping materials listed and installed according to the National or International Fuel Gas Codes.

3. Plastic Pipe Sizing Requirements

Proper sizing of the pipe is important to ensure that each gas appliance receives enough gas to perform properly. An SLI must know the inlet pressure from the main (confirm with Peoples’ Engineering Department where necessary), current and future anticipated load in cubic feet of gas per hour (cu. ft./ hr), and the length of the service in order to determine which diameter plastic pipe to install. The sizing charts in Appendix 1 can be used to determine the appropriate diameter piping for service lines a) up to 200 feet in length, b) up to 2 inches in diameter, and c) with up to 60 pounds inlet pressure. Please refer to the International or National Fuel Gas Codes for sizing lines in excess of these limits.

a) Determining Load

In order to determine the “load”, the SLI must determine the total BTU’s of all natural gas appliances. For example:

40 Gal. Water Heater
40,000 BTU

Gas Dryer
35,000 BTU

Gas Range
60,000 BTU

Furnace
80,000 BTU

Natural Gas Logs
30,000 BTU

40,000 + 35,000 + 60,000 + 80,000 + 30,000 = 245,000 BTU’s

To convert from BTUs to cu. ft./ hr, divide BTU by 1,000:

245,000 BTU’s / 1,000 = 245 cu. ft./ hr
Once the load is known, determine the inlet service pressure (assume low pressure - 7 inches WC or 4 ounces – for this example) and the length of the service (assume 40 feet for this example). Refer to the Pipe Sizing Charts in Appendix 1 to determine the appropriate plastic pipe size.

b) Using the Charts

i. From our example above, we determined a 245 cu. ft. / hr load on a low pressure (4 ounce system), with a 40 foot service line length. The chart indicates that 0.121 wall 1-1/4” CTS tubing is capable of delivering 414 cu. ft. / hr with a 4 ounce inlet pressure, and is able to accommodate the 245 cu. ft. / hr load.

| Inlet Pressure | 0.25 psig ( = 4 oz. per in² = 7 inches of water column) |
| Pressure Drop   | 0.5 inch water column |

<table>
<thead>
<tr>
<th>CTS Size (inches)</th>
<th>Nominal Size (inches)</th>
<th>Nominal OD (inches)</th>
<th>Inside Diameter (inches)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>.062 wall CTS Tubing PE3408</td>
<td>61/64</td>
<td>0.375</td>
<td>0.251</td>
<td>15</td>
</tr>
<tr>
<td>.090 wall CTS Tubing PE3408</td>
<td>5/32</td>
<td>0.335</td>
<td>0.445</td>
<td>72</td>
</tr>
<tr>
<td>.099 wall CTS Tubing PE2406</td>
<td>1/32</td>
<td>0.245</td>
<td>0.427</td>
<td>532</td>
</tr>
<tr>
<td>.121 wall CTS Tubing PE3408</td>
<td>1/32</td>
<td>1.175</td>
<td>1.133</td>
<td>81</td>
</tr>
<tr>
<td>SDR 11 IPS Pipe (6800 Series)</td>
<td>3 1/4</td>
<td>1.375</td>
<td>1.133</td>
<td>81</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CTS Size (inches)</th>
<th>Nominal Size (inches)</th>
<th>Nominal OD (inches)</th>
<th>Inside Diameter (inches)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2.375</td>
<td>1.943</td>
<td>3,594</td>
<td>2,681</td>
</tr>
</tbody>
</table>

i. Peoples’ pipe sizing charts were prepared using the Mueller Equation and the following constants:

1. Atmospheric Pressure: 14.7 psig
2. Standard Condition Temperature: 60°F
3. Gas Specific Gravity: 0.6
5. 1 cu. Ft. gas = 1,000 BTU’s
6. Pressure Drop: 10%

Note: Peoples will not provide 2 psig gas service for a single-family dwelling. For any variances, contact local supervision and engineering for additional considerations.
4. Installation Requirements

a) General Requirements

i. Service Lines

(1) Where cover requirements cannot be met due to existing substructures, the portion of the service line that could be subjected to superimposed loads shall be cased or bridged, or the pipe shall be appropriately strengthened.

(2) Service lines shall be installed in a manner that will minimize anticipated piping strain and external loading.

(3) Service lines installed through walls shall be encased in a protective pipe and shall be sealed at the wall to prevent gas or water leakage into the building. Refer to Drawing No. 3 and Drawing 5-A in Appendix 6 Meter Installation Measurements.

(4) Service lines shall not be installed under a building.

(5) The transition from plastic pipe to more rigid piping at the building wall or meter set assembly shall be protected from shear and bending. A suitable mounting bracket must be used to attach the riser to the building or remote post.

(6) Plastic pipe installed in a vault or any other below-grade enclosure must be completely encased in gas-tight metal pipe and fittings that are adequately protected from corrosion.

(7) Plastic pipe shall be installed with sufficient clearance and shall be insulated from any heat source that may impair serviceability of the pipe.

(8) No person may make a plastic pipe joint unless that person has been qualified in plastic pipe joining utilizing qualified plastic pipe joining procedures.

(9) Take precautions when plastic pipe is dragged along hard surfaces such as concrete, asphalt and stone.

(10) Inspect all plastic pipe and tubing for cuts, gouges, deep scratches and other imperfections during and after installation. Inspections would include direct burial, insertion, directional boring installations, wherever the plastic pipe is exposed (i.e., exposed services and tie-in holes). Defects in plastic pipe that penetrate the pipe wall by more than 10 percent of the pipe wall thickness shall be removed.

(11) When installing a new service line or replacing an existing service line, a minimum radial separation of 12 inches must be maintained from all other utilities, conduits, ducts, and similar structures, including abandoned structures. If 12 inches separation cannot be feasibly attained at the time of installation, then mitigating measures shall be taken to protect lines against damage that might result from proximity to other structures. Examples may include the use of insulators, casing, shields or spacers. This does not apply to services crossing one another at 90 degrees.

(12) Consideration shall be given to not installing service lines in close proximity trees or shrubs.
ii. Locator Wire Warning Tape

In order to accurately locate plastic pipe and minimize future damage, plastic service line installations must include the use of electrically conductive locator wire and warning tape. The traceability of the service and/or the continuity of the Locator wire will be verified prior to accepting the installed service line into the system.

(1) Specific Installation Requirements

• Direct buried Installations
  • A continuous piece of approved Locator wire is to be installed at a distance of six inches below or beside the plastic pipe to facilitate location of the pipe after construction.
  • One end is to terminate with the plastic, coiled up at the main, while the other shall follow the riser up to the wall bracket.

• Insertion (Replacements)
  • When inserting plastic through old steel service lines, Locator wire and approved bonding clamps must be installed to the exposed ends of the old steel, which will now act as casing and allow for locating the service.
  • The Locator wire shall then follow the plastic as in direct bury installations.
  • Exposed ends of Locator wire and the approved bonding clamps are to be coated with approved wax wrap to prevent corrosion.
  • The casing surface and the bonding clamp must be coated with an approved primer, then completely wrapped with wax tape.

• Plow-In
  • Plastic warning tape and Locator wire shall be installed with the plastic.

• Directional Bore
  • Before boring with plastic pipe, a thorough investigation of the area, to include pot-holing where necessary, shall be made to determine the location of all underground utilities or structures.
  • Boring installations should not be attempted in the areas of sanitary sewer laterals if the exact locations and depths of the facilities are unknown. Damage to sewer laterals by boring equipment could result in explosive amounts of natural gas in a structure. Installers are encouraged to verify sewer laterals were unharmed during installation with a post-construction inspection using a camera if the sewer lateral was not exposed during boring.
  • If plastic pipe is pulled by directional boring, a weak link shall be used that would limit the pulling forces on the plastic pipe.
• Two pieces of 8 gauge locator wire shall be pulled with the plastic pipe to facilitate location of the pipe after installation. Prior to the pulling of plastic pipe, Locator wire shall be attached to the outside of the pipe in the 3 o’clock and 9 o’clock positions.
• For more detail, contact Peoples’ local office.

(2) In an effort to minimize below ground splices, wherever practical, use a continuous piece of approved Locator wire.
(3) Locator wire may not be wrapped around the pipe
(4) Plastic warning tape shall be installed over all direct buried service lines at approximately 6 inches below ground surface.
(5) Locator wire shall be installed as shown in the application specific diagrams found in Appendix 3.

iii. Meter Manifolds

b) Installation Techniques

i. Direct Burial

(1) The ditch bottom shall be as smooth as possible, free of rocks, debris and any sharp protrusions.
(2) Plastic pipe shall always be laid into the ditch allowing slack for thermal contractions and expansions.
(3) Changes in direction shall be made with a fitting if the change in direction exceeds the minimum bending radius of the pipe.
(4) The backfill shall be placed and compacted in layers. The fill around the pipe and first layer over the pipe shall be select backfill material.
(5) Backfilling of service lines shall only be performed or supervised by operator qualified personnel.
(6) The use of blocking to support the pipe is prohibited.
(7) There shall be a minimum of 12 inches of cover on private property and 18 inches in streets and roads
(8) The material used for backfill shall be free of materials that could damage the pipe.
(9) Plastic pipe must be installed so as to minimize shear or tensile stresses resulting from construction, backfill, thermal contraction or external loading. Plastic pipe shall be laid and continuously supported on undisturbed or well compacted earth rather than on blocking to minimize shear stresses. When rock, ledge, hard pan or boulders are encountered, the trench shall be padded with at least six inches of select backfill and filled with at least six inches over the plastic pipe.
(10) When installing new direct buried plastic gas service lines in a common trench (joint trench with other utilities), a minimum radial separation of 12 inches must
be maintained from all other utilities, conduits, ducts, and similar structures, including abandoned structures. If 12 inches separation cannot be feasibly attained at the time of installation, then mitigating measures shall be taken to protect lines against damage that might result from proximity to other structures. Examples may include the use of insulators, casing, shields or spacers. This does not apply to services crossing one another at 90 degrees.

ii. Insertion

Plastic pipe may be inserted into existing service lines in lieu of replacement by trenching. The SLI must verify that the internal diameter of the existing pipe, which will become casing, will accommodate plastic pipe sized according to the Pipe Sizing Charts in Appendix 1.

(1) The old pipe shall be cleaned or reamed to the extent necessary to remove sharp edges and care shall be taken when guiding the plastic pipe into the casing to prevent damaging the plastic pipe on the casing edge.
(2) Pushing the pipe in, or a combination of pushing and pulling it in, is preferable to pulling it in to prevent excessive tensile loading.
(3) Wherever possible, the plastic shall be pushed from the meter to the street. The excavation at the street shall be at least 4 ft. by 4 ft.
(4) The leading face of the plastic pipe shall be closed during insertion.
(5) Exposed plastic pipe or tubing entering or exiting casing must be of sufficient length and properly supported to withstand the anticipated external loading or it must be protected using a suitable bridging piece capable of withstanding the anticipated external loading.
(6) To prevent damage to the plastic pipe during insertion, the casing openings shall be cleaned to remove sharp edges and shielded.
(7) To prevent shearing type forces, protective sleeves or bridging of sufficient length shall be installed at shear points.

iii. Plow-In

(1) Plastic pipe may be installed by a pull-in or plant-in method if soil conditions, location, and survey of underground obstructions are found satisfactory.
(2) Pipe will be placed in the ground in a manner that will minimize longitudinal tensile stresses.
(3) Plastic warning tape and locator wire shall also be installed while plowing-in the plastic in accordance with the direct burial method.
iv. Directional Boring

(1) Before boring with plastic pipe, a thorough investigation of the area, to include pot-holing where necessary, shall be made to determine the location of all underground utilities or structures.

(2) If plastic pipe is pulled by directional boring, a weak link (refer to Appendix 2) shall be used that would limit the pulling forces on the plastic pipe.

(3) Boring installations should not be attempted in the areas of sanitary sewer laterals if the exact locations and depths of the facilities are unknown. Damage to sewer laterals by boring equipment could result in explosive amounts of natural gas in a structure. Installers are encouraged to verify sewer laterals were unharmed during installation with a post-construction inspection using a camera if the sewer lateral was not exposed during boring.

(4) Locator (Locator) wire shall be installed to facilitate location of the pipe.

c) Application Specific Installation Requirements

i. Low Pressure Systems
   All low pressure customers will have a “curb valve” on the customer’s side of the street.

   (1) Specific Requirements
   Refer to the drawings in Appendix 3 for specific installation requirements for each scenario below:
   - New Service – Direct Bury
   - Replaced Service – Sleeved - Inside Meter
   - Replaced Service – Sleeved – Outside Meter

ii. Regulated Pressure
   Existing medium and intermediate pressure systems may not have a curb valve installed on the service line; therefore, it is necessary to contact the local Peoples office for the location of a pre-installed service tap prior to installation of new service line piping.

   (1) Specific Requirements
   Refer to the drawings in Appendix 3 for specific installation requirements for each scenario below:
   - New Service - Medium Pressure - Direct Bury
   - Replaced Service – Medium Pressure – Sleeved
d) Meters and Regulators

i. General Requirements

(1) New meter installations must be located outside.
(2) When selecting a meter location, consideration shall be given to potential
damage by outside forces such as vehicles, construction equipment, tools or
materials which could be placed on the meter and falling objects. When such
potential is evident, the meter shall be protected or an alternative location
selected.
(3) Meters and service regulators shall be accessible for reading, inspection,
repairs, testing, changing and operation of the gas shutoff valve.
(4) When more than one meter is set at a structure, the meters shall be set at one
location when practical.
(5) When more than one meter is set at a structure, each meter must be marked by
a metal tag (or other permanent means) attached by the SLI, designating the part
of the building being supplied by that meter.
(6) When practical, no building shall have more than one service line or more than
one meter location.
(7) If a meter cannot be installed outside because an acceptable outside location is
not available or protection from ambient temperatures is necessary to avoid
meter freeze-ups, approval by an Operations Manager is required.
(8) Installers must consult with a Peoples representative for a meter location when
unusual circumstances exist.

ii. Outside Meter and Regulator Locations

(1) Meters shall not be installed in the following locations:
   • Beneath or in front of windows or other building openings that may
directly obstruct emergency fire exits.
   • Under interior stairways.
   • Under exterior stairways
   • In a crawl space.
   • Within 3 feet of building air intakes.
   • Within 3 feet from ignition sources (such as exhaust from clothes dryers,
furnace intake and exhausts, etc.). Note: Electric utility meters are not
considered a source of ignition.
(2) Meters and service regulators shall not be installed in contact with the soil or
other potentially corrosive materials. The potential for shorting out the insulated
fitting shall also be considered.
(3) The meter, regulator and exposed connected piping must be protected from
atmospheric corrosion by coating with approved materials.
(4) Outside meters shall be installed aboveground in a protected location adjacent to
the building served.
(5) Service regulators shall be installed where gas released through the regulator relief can escape freely into the atmosphere and away from openings into buildings.

(6) Note: The service regulator vent opening has a threaded fitting that allows the vent to be piped away from opening into buildings and potential sources of ignition.

iii. Inside Meter and Regulator Locations

(1) Approval must be granted by Peoples before a meter on an existing pressure system can be installed inside a structure.

(2) Each meter installed within a building shall be located in a ventilated place and shall not be less than 3 feet from any source of ignition or any source of heat which might damage the meter.

(3) Where practical, meters shall not be located in confined spaces such as engine rooms, boiler rooms, furnace rooms or electrical equipment rooms, nor living quarters, closets, restrooms, bathrooms or similar locations. In general, the meter must be accessible.

(4) Meters shall not be installed in a crawl space.

(5) A readily accessible shutoff valve shall be located outside the building. Contact a local supervisor with questions regarding this issue.

e) House Lines

i. The installation of a customer valve is recommended for safety considerations. This valve should be installed between the outlet of the meter and the building wall (as shown on the Appendix 3 Installation drawings).

5. Pressure Testing Procedures

a) Service Line Pressure Testing Procedures

i. Low Pressure: (Less than 1 PSIG)

(1) Install the gauge assembly on service line.

(2) Install the appropriate blank or dead-end stab fitting at the end of the service line (at the curb)

(3) Pressurize the service line to 90 pounds

(4) If the line is smaller than 2 inches the test must hold for a minimum of 10 minutes

(5) If the line is 2 inches or larger, the test must hold for a minimum of 1 hour.
ii. Medium Pressure: (1 to 60 PSIG)

(1) Install the gauge assembly on service line.
(2) Install the appropriate blank or dead-end stab fitting at the end of the service line
   (at the curb)
(3) Pressurize the service line to 90 pounds
(4) If the line is smaller than 2 inches the test must hold for a minimum of 10 minutes
(5) If the line is 2 inches or larger, the test must hold for a minimum of 1 hour

iii. Intermediate Pressure: (Greater than 60 to 100 PSIG)

(1) Contact a Peoples representative when these pressure conditions exist.
(2) Meter will be installed at mainline to allow adequate space for required regulation
   devices; therefore, a service line most likely will not exist.
(3) Location of meter will be determined by a Peoples employee under these
   conditions. Testing requirements will also be determined by the Peoples
   representative.

iv. Recommended Materials:

(1) A calibrated spring gauge with a mid-range of approximately 90 pounds.
(2) A calibrated spring gauge with a mid-range of approximately 150 pounds (if
   required).
(3) Kuhlman gauge
(4) A tee assembly to accept a 1/8” male thread, a 1/4” gauge, and a Schrader valve
   (tire valve) for the introduction of air into the system.
(5) 3/4” threaded steel plug (if required)
(6) 1” threaded steel plug (if required)
(7) 3/4” X 1/8” reducing plug (if required)
(8) 1” X 1/8” reducing plug (if required)
(9) A blank or dead-end stab to fit the appropriate service line size.
(10) An air compressor, pump, or compressed gas cylinder capable of pressurizing
     the service line to a minimum of 150 pounds pressure.

Gauges used for service line pressure testing shall meet the requirements of ASME B40.1,
Grade B, 3-2-3% accuracy. While other gauges may be used, the gauge below meets these
requirements and is available from MRC Global.
McDaniel Spring Gauge
- J8E, Utility Style 2 1/2"
- Dial Size 1/4" NPT Bottom
- Connected
- Black Enameled Steel Case
- Brass Internals

6. Requesting Connection (Tie-In) to the Peoples Distribution System

a) Serve Installation Record (SIR Form)

Once the installation is complete and has been successfully pressure tested, a completed Service Installation Record Form (Peoples Form No. 700116, see Appendix 4) must be faxed to the following number: 1-888-846-3259

i. Completing the Service Installation Record:

   (1) Complete all required items on the form.
   (2) Provide your Operator Qualification Universal ID #.
   (3) Ensure that you complete the “Installing Firm” section accurately. Use the same company name used for your approved DOT Drug and Alcohol Plan.
   (4) Ensure that all information is legible and can be read by a Peoples representative.
   (5) The qualified SLI must sign and date the form.

ii. Upon receipt of the completed form, a Peoples representative will verify that the Operator Qualification credentials of the SLI are valid, and will verify that the employer has a DOT-PHMSA compliant Drug and Alcohol testing program that has been verified and approved by Veriforce (Peoples representative).
7. Inspection and Tie-In

a) Completed SIR Form

Upon receipt of a completed SIR form (for new construction services installed by the builder/developer) and successful verification of the installer’s credentials, Peoples will dispatch representatives to process the tie-in request.

i. Repaired and replaced service lines (existing customers) will be scheduled for tie-in as soon as possible, generally the same day (depending on when the request is received), but no later than 24 hours after requested.

ii. New construction service line tie-in requests will be scheduled to be completed within 10 business days.

b) Arrival of Peoples Representative

Upon arrival, a Peoples representative will inspect the installation against the requirements outlined in this manual, including, but not limited to:

i. Verification that Peoples approved materials were used;
ii. Verification of valid pressure test;
iii. Verification that the service line can be located accurately and/or that the Locator wire is continuous;
iv. Verification that the meter manifold is supported properly;
v. Verification that exposed houseline is adequately coated to prevent atmospheric corrosion.

c) New Construction

For new construction, the installer or customer must schedule an appointment for the connection of the service line and the installation of the meter. Access to the inside of the building must be provided during this appointment to activate the gas service.

i. Prior to service activation, Peoples’ personnel will verify that there is no leakage.

   (1) If no leak is found, Peoples personnel will complete the turn-on.
   (2) If a leak is discovered and can be isolated, Peoples will set the meter, and turn on the service, utilizing a houseline valve upstream of the leak to isolate the leaking section of houseline. Peoples will “Red Tag” the leaking portion of the houseline.
   (3) If the houseline leaks, but the leak cannot be isolated, Peoples will set the meter, but will lock the meter stop and leave a red tag. A “Live Gas to this Point” tag will
also be attached to the locked meter. The customer will be responsible to have the repairs made by a qualified plumber. After the repairs are made, the customer will call Peoples to schedule a turn-on. Another SIR form is not required in this situation as the service line has already been properly tested and activated.

ii. If no access is provided, Peoples will cancel the appointment and the customer will be responsible to call Peoples Natural Gas to reschedule the turn-on.

d) Non-Emergency

If a customer or their representative schedules a non-emergency field visit and fails to prepare for Peoples arrival, a fee of $30 may be charged. This fee will be charged if it is necessary for Peoples to make a second visit or incur unusual expense as the result. Reasons to charge this fee include, but are not limited to: leaks, material defects or other unsatisfactory conditions which result in Peoples’ inability to connect the lines of installers’ errors.

8. Re-establishing Gas Service after a Buried House Line Leak

The following procedure applies to re-establishing gas service after house line repairs or replacement in all Peoples service territories.

i. If the customer’s meter has been locked at the meter valve after discovery of a leak that poses an immediate danger (Grade 1 Leak), the plumber/customer’s representative may begin house line repairs without prior notice to Peoples.

ii. If the customer’s meter has been left on after discovery of a leak that does not pose an immediate danger (Grade 2 Leak), the plumber/customer’s representative shall request a meter turn-off prior to the start of house line repairs. Only a Peoples employee shall close the meter valve for house line repairs.

iii. Pressure testing for new, renewed, previously abandoned and partially replaced buried house lines from the Company’s meter set through the Customer’s building shall be performed by a qualified person according to the International and/or National Fuel Gas Codes.

iv. The house line pressure test mentioned in Step 3 does not require witnessing or inspection by Peoples personnel.

v. After a successful houseline pressure test has been performed, the plumber/customer representative will notify Peoples that the premise is ready to have gas service reinstated.
Appendix 1

Pipe Sizing Charts

Refer to International Fuel Gas Code for sizing in excess of the chart limits
Peoples
Service Line Installation Standards

<table>
<thead>
<tr>
<th>Variables</th>
<th>Units</th>
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</thead>
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<tr>
<td>Atmospheric Pressure</td>
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<tr>
<td>Gas Specific Gravity</td>
<td>0.6</td>
</tr>
<tr>
<td>Gas Viscosity</td>
<td>7.39E-08 lb/ft sec</td>
</tr>
</tbody>
</table>

Inlet Pressure: 0.25 psig (7 inches of water column)
Pressure Drop: 0.5 inch water column

### STEEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| Nominal Diameter (inches) | Inside Diameter (inches) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1,000 |
|---------------------------|--------------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1/2                       | 0.622                    | 115| 120| 95 | 81 | 71 | 64 | 59 | 54 | 51 | 48 | 42 | 38 | 35 | 32 | 25 | 21 | 17 | 16 | 14 | 13 | 13 |
| 3/4                       | 0.924                    | 395| 259| 205| 174| 153| 138| 128| 117| 106| 103| 90 | 74 | 59 | 55 | 46 | 41 | 37 | 34 | 31 | 29 | 27 |
| 1                         | 1.049                    | 745| 600| 396| 336| 295| 266| 243| 225| 210| 196| 174| 167| 144| 133| 105| 89 | 70 | 71 | 65 | 60 | 68 | 63 |
| 1 1/4                     | 1.380                    | 1,572|1,055|836|708|623|561|513|476|444|418|368|331|303|281|222|188|160|149|137|127|116|111 |
| 1 1/2                     | 1.610                    | 2,393|1,656|1,272|1,078|948|854|782|724|676|637|560|504|451|427|338|267|252|227|208|193|180|169 |
| 2                         | 2.067                    | 4,727|3,173|2,513|2,130|1,874|1,687|1,544|1,430|1,338|1,258|1,106|966|912|844|669|567|499|449|411|380|356|335 |

### PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| CTS Size (inches) | Nominal OD (inches) | Nominal Diameter (inches) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1,000 |
|--------------------|---------------------|---------------------------|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .062 wall CTS Tubing | 3/8 | 0.375 | 0.251 | 15 | 10 | 8 | 7 | 6 | 5 | 5 | 5 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| .090 wall CTS Tubing | 5/8 | 0.625 | 0.445 | 72 | 48 | 38 | 32 | 29 | 26 | 24 | 22 | 20 | 19 | 17 | 15 | 14 | 13 | 10 | 9 | 8 | 7 | 6 | 6 | 5 | 5 | 5 |
| .099 wall CTS Tubing | 1 | 1 1/8 | 0.927 | 532 | 357 | 283 | 240 | 211 | 190 | 174 | 161 | 150 | 141 | 124 | 112 | 103 | 95 | 75 | 64 | 56 | 50 | 46 | 43 | 40 | 38 |
| .121 wall CTS Tubing | 1 1/4 | 1.375 | 1.133 | 918 | 617 | 468 | 414 | 364 | 328 | 300 | 278 | 260 | 244 | 215 | 194 | 177 | 164 | 130 | 110 | 97 | 87 | 80 | 74 | 69 | 65 |
| SDR 11 IPS Pipe (6800 Series) | 2 | 2.375 | 1.943 | 3,994 | 2,681 | 2,123 | 1,800 | 1,583 | 1,425 | 1,304 | 1,208 | 1,129 | 1,063 | 935 | 842 | 770 | 713 | 565 | 479 | 421 | 379 | 347 | 321 | 300 | 283 |
| 3 | 3.500 | 2.684 | 11,495 | 7,717 | 6,112 | 5,160 | 4,556 | 4,103 | 3,756 | 3,477 | 3,250 | 3,059 | 2,960 | 2,423 | 2,217 | 2,053 | 1,826 | 1,378 | 1,212 | 1,092 | 999 | 925 | 865 | 814 |
| 4 | 4.500 | 3.682 | 22,795 | 15,302 | 12,120 | 10,272 | 9,035 | 8,136 | 7,446 | 6,896 | 6,444 | 6,065 | 5,336 | 4,804 | 4,396 | 4,072 | 3,225 | 2,733 | 2,404 | 2,165 | 1,981 | 1,835 | 1,715 | 1,614 |
| 6 | 6.625 | 5.421 | 65,408 | 43,908 | 34,777 | 29,475 | 25,926 | 23,345 | 21,365 | 19,786 | 18,490 | 17,404 | 15,308 | 13,784 | 12,615 | 11,683 | 9,253 | 7,842 | 6,896 | 6,212 | 5,685 | 5,266 | 4,920 | 4,631 |
### Peoples Service Line Installation Standards

<table>
<thead>
<tr>
<th>Variable</th>
<th>Units</th>
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<tr>
<td>Atmospheric Pressure</td>
<td>14.7 psig</td>
</tr>
<tr>
<td>Gas Specific Gravity</td>
<td>0.5</td>
</tr>
<tr>
<td>Gas Viscosity</td>
<td>7.06E-05 lbm/ft⋅sec</td>
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#### Inlet Pressure
- **Pressure Drop**: 0.2 psig

#### STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

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<tr>
<th>Nominal Diameter (inches)</th>
<th>Inside Diameter (inches)</th>
<th>10</th>
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<th>30</th>
<th>40</th>
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#### PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| CTS Size | Nominal OD (inches) | Nominal ID (inches) | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80   | 90   | 100  | 125  | 150  | 175  | 200  | 250  | 300  | 400  | 500  | 750  | 1000 | 1500 | 2000 | 3000 |
|----------|---------------------|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| .062 wall CTS Tubing PE 3408 | 9/32 | 0.295 | 0.269 | 0.246 | 0.225 | 0.205 | 0.192 | 0.180 | 0.172 | 0.165 | 0.159 | 0.154 | 0.150 | 0.147 | 0.145 | 0.144 | 0.143 | 0.142 | 0.142 | 0.141 | 0.141 | 0.141 | 0.141 |
| .090 wall CTS Tubing PE 3408 | 5/32 | 0.262 | 0.239 | 0.218 | 0.200 | 0.183 | 0.170 | 0.160 | 0.153 | 0.147 | 0.142 | 0.137 | 0.133 | 0.130 | 0.127 | 0.125 | 0.123 | 0.121 | 0.121 | 0.120 | 0.120 | 0.120 | 0.120 |
| .080 wall CTS Tubing PE 3408 | 3/32 | 0.200 | 0.180 | 0.163 | 0.149 | 0.137 | 0.128 | 0.121 | 0.117 | 0.113 | 0.109 | 0.106 | 0.103 | 0.101 | 0.099 | 0.097 | 0.095 | 0.093 | 0.092 | 0.091 | 0.091 | 0.091 | 0.091 |
| .121 wall CTS Tubing PE 3408 | 1/8  | 0.187 | 0.168 | 0.153 | 0.141 | 0.131 | 0.123 | 0.117 | 0.112 | 0.108 | 0.105 | 0.102 | 0.100 | 0.098 | 0.096 | 0.094 | 0.092 | 0.090 | 0.089 | 0.088 | 0.087 | 0.087 | 0.087 |
| SDR 11 IPS Pipe PE 3408    | 2    | 2.275 | 2.049 | 1.825 | 1.631 | 1.467 | 1.326 | 1.216 | 1.132 | 1.065 | 1.007 | 0.956 | 0.913 | 0.877 | 0.849 | 0.828 | 0.813 | 0.795 | 0.782 | 0.773 | 0.767 | 0.764 | 0.764 |
| SDR 11.5 IPS Pipe PE 3408  | 3    | 3.205 | 2.853 | 2.496 | 2.188 | 1.928 | 1.701 | 1.513 | 1.366 | 1.247 | 1.147 | 1.066 | 1.000 | 0.947 | 0.903 | 0.866 | 0.836 | 0.813 | 0.794 | 0.780 | 0.771 | 0.767 | 0.764 |
| SDR 13.5 IPS Pipe PE 3406  | 4    | 4.500 | 3.894 | 3.388 | 2.948 | 2.567 | 2.237 | 1.961 | 1.739 | 1.565 | 1.422 | 1.305 | 1.218 | 1.147 | 1.091 | 1.049 | 1.014 | 0.984 | 0.960 | 0.941 | 0.929 | 0.922 | 0.920 |
Peoples Service Line Installation Standards

### STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>Nominal Diameter (inches)</th>
<th>Inside Diameter (inches)</th>
<th>Length of Pipe (feet)</th>
<th>Capacity (Cubic Feet)</th>
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### PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

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<th>Inside Diameter (inches)</th>
<th>Length of Pipe (feet)</th>
<th>Capacity (Cubic Feet)</th>
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<td>Atmospheric Pressure</td>
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<tr>
<td>Gas Specific Gravity</td>
<td>0.6</td>
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<tr>
<td>Gas Viscosity</td>
<td>7.3E-08 lbm/ft-s</td>
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</tr>
</tbody>
</table>

### STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| Nominal Diameter (Inches) | Inside Diameter (Inches) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 175 | 200 | 300 | 400 | 500 | 750 | 1,000 | 1,500 | 2,000 | 3,000 |
|----------------------------|--------------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|-------|-------|
| 1/2                        | 0.622                    | 2.378 | 1.597 | 1.285 | 1.072 | 0.943 | 0.849 | 0.777 | 0.719 | 0.672 | 0.633 | 0.597 | 0.591 | 0.549 | 0.428 | 0.386 | 0.285 | 0.261 | 0.199 | 0.168 | 0.133 | 0.113 | 0.090 | 0.060 |
| 3/4                        | 0.824                    | 3.118 | 2.343 | 1.871 | 1.597 | 1.327 | 1.192 | 1.081 | 0.981 | 0.907 | 0.874 | 0.814 | 0.791 | 0.724 | 0.614 | 0.514 | 0.429 | 0.382 | 0.297 | 0.240 | 0.214 | 0.180 | 0.155 | 0.125 |
| 1                           | 1.046                    | 3.552 | 2.434 | 1.902 | 1.543 | 1.320 | 1.185 | 1.073 | 0.972 | 0.907 | 0.874 | 0.814 | 0.791 | 0.724 | 0.614 | 0.514 | 0.429 | 0.382 | 0.297 | 0.240 | 0.214 | 0.180 | 0.155 | 0.125 |
| 1 1/4                      | 1.380                    | 4.094 | 2.864 | 2.220 | 1.853 | 1.632 | 1.497 | 1.384 | 1.283 | 1.220 | 1.184 | 1.124 | 1.091 | 1.035 | 0.924 | 0.824 | 0.724 | 0.614 | 0.514 | 0.429 | 0.382 | 0.297 | 0.240 | 0.214 |
| 1 1/2                      | 1.610                    | 4.376 | 3.117 | 2.508 | 2.150 | 1.930 | 1.805 | 1.693 | 1.592 | 1.528 | 1.492 | 1.452 | 1.420 | 1.365 | 1.284 | 1.221 | 1.159 | 1.098 | 0.987 | 0.872 | 0.785 |

### PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| CTS Size (Inches) | Nominal Diameter (Inches) | Inside Diameter (Inches) | Inside Diameter (Inches) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 175 | 200 | 300 | 400 | 500 | 750 | 1,000 | 1,500 | 2,000 |
|-------------------|---------------------------|--------------------------|--------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|-------|-------|
| .062 wall         | GTS Tubing PE 3408        | 1.25                       | 0.922                    | 2.378 | 1.597 | 1.285 | 1.072 | 0.943 | 0.849 | 0.777 | 0.719 | 0.672 | 0.633 | 0.597 | 0.591 | 0.549 | 0.428 | 0.386 | 0.285 | 0.261 | 0.199 | 0.168 | 0.133 | 0.113 | 0.090 | 0.060 |
| .099 wall         | GTS Tubing PE 3408        | 1.25                       | 0.922                    | 2.378 | 1.597 | 1.285 | 1.072 | 0.943 | 0.849 | 0.777 | 0.719 | 0.672 | 0.633 | 0.597 | 0.591 | 0.549 | 0.428 | 0.386 | 0.285 | 0.261 | 0.199 | 0.168 | 0.133 | 0.113 | 0.090 | 0.060 |
| .121 wall         | GTS Tubing PE 2406        | 1.5                     | 1.122                    | 0.922 | 2.378 | 1.597 | 1.285 | 1.072 | 0.943 | 0.849 | 0.777 | 0.719 | 0.672 | 0.633 | 0.597 | 0.591 | 0.549 | 0.428 | 0.386 | 0.285 | 0.261 | 0.199 | 0.168 | 0.133 | 0.113 | 0.090 | 0.060 |
| SDR 11 PS Pipe PE 3408/2406 | 2.3                     | 1.943                    | 1.606                    | 1.25                       | 0.922 | 2.378 | 1.597 | 1.285 | 1.072 | 0.943 | 0.849 | 0.777 | 0.719 | 0.672 | 0.633 | 0.597 | 0.591 | 0.549 | 0.428 | 0.386 | 0.285 | 0.261 | 0.199 | 0.168 | 0.133 | 0.113 | 0.090 | 0.060 |
| SDR 11.5 PS Pipe PE 2406 | 2.3                     | 1.943                    | 1.606                    | 1.25                       | 0.922 | 2.378 | 1.597 | 1.285 | 1.072 | 0.943 | 0.849 | 0.777 | 0.719 | 0.672 | 0.633 | 0.597 | 0.591 | 0.549 | 0.428 | 0.386 | 0.285 | 0.261 | 0.199 | 0.168 | 0.133 | 0.113 | 0.090 | 0.060 |
| SDR 13.5 PS Pipe PE 2406 | 2.3                     | 1.943                    | 1.606                    | 1.25                       | 0.922 | 2.378 | 1.597 | 1.285 | 1.072 | 0.943 | 0.849 | 0.777 | 0.719 | 0.672 | 0.633 | 0.597 | 0.591 | 0.549 | 0.428 | 0.386 | 0.285 | 0.261 | 0.199 | 0.168 | 0.133 | 0.113 | 0.090 | 0.060 |
## Peoples Service Line Installation Standards

### STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>Nominal Diameter (inches)</th>
<th>Inside Diameter (inches)</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
<th>Length of Pipe (feet)</th>
<th>Capacity</th>
</tr>
</thead>
</table>

### PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>CTS Size</th>
<th>Nominal Diameter (inches)</th>
<th>Inside Diameter (inches)</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
<th>Length of Pipe (feet)</th>
<th>Capacity</th>
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<tbody>
<tr>
<td>.375 wall</td>
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<td>0.375</td>
<td>.352</td>
<td>.343</td>
<td>.332</td>
<td>.322</td>
<td>.312</td>
<td>.302</td>
<td>.292</td>
<td>.282</td>
<td>.272</td>
<td>.262</td>
<td>6</td>
<td>62.64</td>
</tr>
<tr>
<td>.500 wall</td>
<td>9/8</td>
<td>0.500</td>
<td>.440</td>
<td>.430</td>
<td>.420</td>
<td>.410</td>
<td>.400</td>
<td>.390</td>
<td>.380</td>
<td>.370</td>
<td>.360</td>
<td>.350</td>
<td>12</td>
<td>125.28</td>
</tr>
<tr>
<td>.500 wall</td>
<td>9/12</td>
<td>0.500</td>
<td>.460</td>
<td>.450</td>
<td>.440</td>
<td>.430</td>
<td>.420</td>
<td>.410</td>
<td>.400</td>
<td>.390</td>
<td>.380</td>
<td>.370</td>
<td>18</td>
<td>187.92</td>
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<tr>
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<td>1.067</td>
<td>1.046</td>
<td>1.025</td>
<td>1.005</td>
<td>.985</td>
<td>.965</td>
<td>.945</td>
<td>.925</td>
<td>.905</td>
<td>.885</td>
<td>.865</td>
<td>24</td>
<td>250.56</td>
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<td>.750 wall</td>
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<td>1.525</td>
<td>1.505</td>
<td>1.485</td>
<td>1.465</td>
<td>1.445</td>
<td>1.425</td>
<td>1.405</td>
<td>1.385</td>
<td>1.365</td>
<td>1.345</td>
<td>1.325</td>
<td>30</td>
<td>303.20</td>
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<tr>
<td>.750 wall</td>
<td>1 1/4</td>
<td>1.750</td>
<td>1.730</td>
<td>1.710</td>
<td>1.690</td>
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<td>1.590</td>
<td>1.570</td>
<td>1.550</td>
<td>36</td>
<td>365.92</td>
</tr>
</tbody>
</table>

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**Pressure Drop** 2 psi

**Inlet Pressure** 20 psig
### Peoples Service Line Installation Standards

**Inlet Pressure** 30 psig  
**Pressure Drop** 3 psi

#### STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| Nominal Diameter (inches) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 400 | 500 | 600 | 750 | 1,000 | 1,500 | 2,000 | 2,500 | 3,000 |
|--------------------------|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|-------|-------|-------|-------|
| Inside Diameter (inches) | 1/4 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 16 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 100 | 150 | 200 | 250 | 300 |
|                           | 0.027 | 0.042 | 0.048 | 0.081 | 0.114 | 0.160 | 0.210 | 0.300 | 0.370 | 0.460 | 0.650 | 0.880 | 1.110 | 1.340 | 1.870 | 2.400 | 3.000 | 3.800 | 4.600 | 5.800 | 7.500 | 9.100 | 11.000 | 13.000 |

#### PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| CTS Size (inches) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 400 | 500 | 600 | 750 | 1,000 | 1,500 | 2,000 | 2,500 | 3,000 |
|-------------------|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|-------|-------|-------|-------|
| CTS Tubing PE 3408 | 0.027 | 0.042 | 0.048 | 0.081 | 0.114 | 0.160 | 0.210 | 0.300 | 0.370 | 0.460 | 0.650 | 0.880 | 1.110 | 1.340 | 1.870 | 2.400 | 3.000 | 3.800 | 4.600 | 5.800 | 7.500 | 9.100 | 11.000 | 13.000 |

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### Peoples Service Line Installation Standards

#### Inlet Pressure 40 psig
#### Pressure Drop 4 psi

**STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities**

<table>
<thead>
<tr>
<th>Nominal Diameter (Inches)</th>
<th>Inside Diameter (Inches)</th>
<th>Length of Pipe (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>1/2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3/4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1 1/4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities**

<table>
<thead>
<tr>
<th>CTS Size (Inches)</th>
<th>Nominal Diameter (Inches)</th>
<th>Nominal Inside Diameter (Inches)</th>
<th>Length of Pipe (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>0.62 wall</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>0.99 wall</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>0.21 wall</td>
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**SDR 11 IPS Pipe PE 3408**

<table>
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<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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</table>

**SDR 13.5 IPS Pipe PE 3406**

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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>...</th>
</tr>
</thead>
</table>
### STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| Nominal Diameter (inches) | Inside Diameter (inches) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1500 | 2000 | 3000 |
|--------------------------|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                          |                          | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             | 1/4             |
|                          |                          |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |

### PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>CTS Size (inches)</th>
<th>Nominal Diameter (inches)</th>
<th>Length of Pipe (feet)</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
<th>1000</th>
<th>1500</th>
<th>2000</th>
<th>3000</th>
</tr>
</thead>
<tbody>
<tr>
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<td>CTS Tubing PE-3648</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>.090 wall</td>
<td>CTS Tubing PE-3646</td>
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</tr>
<tr>
<td>.121 wall</td>
<td>CTS Tubing PE-3648</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SDR 11 IPS Pipe PE-3646</td>
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<tr>
<td>SDR 11.5 IPS Pipe PE-3646</td>
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<tr>
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</table>
# Peoples Service Line Installation Standards

## STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>Nominal Diameter (inches)</th>
<th>Inside Diameter (inches)</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
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<tbody>
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<td>0.322</td>
<td>12.444</td>
<td>0.354</td>
<td>0.318</td>
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<td>0.442</td>
<td>0.465</td>
<td>0.524</td>
<td>0.518</td>
<td>0.511</td>
<td>0.513</td>
<td>0.512</td>
<td>0.512</td>
<td>0.501</td>
</tr>
<tr>
<td>3/4</td>
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<td>26.779</td>
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<td>0.654</td>
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<td>0.874</td>
<td>0.910</td>
<td>0.910</td>
<td>0.910</td>
<td>0.910</td>
<td>0.910</td>
<td>0.910</td>
<td>0.910</td>
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<tr>
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<td>328.240</td>
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## PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>SDR 11 IPS Pipe PE 3408/2406</th>
<th>CTS Tubing PE 3408</th>
<th>.062 wall</th>
<th>.090 wall</th>
<th>.099 wall</th>
<th>.121 wall</th>
<th>CTS Tubing PE 2406</th>
<th>.114 wall</th>
<th>CTS Tubing PE 3408</th>
<th>.114 wall</th>
<th>CTS Tubing PE 3408</th>
<th>.114 wall</th>
<th>CTS Tubing PE 3408</th>
<th>.114 wall</th>
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</thead>
<tbody>
<tr>
<td>1/2</td>
<td>0.315</td>
<td>2.375</td>
<td>0.251</td>
<td>0.375</td>
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<td>0.700</td>
<td>0.651</td>
<td>0.598</td>
<td>0.544</td>
</tr>
</tbody>
</table>

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**Peoples Service Line Installation Standards**

**Inlet Pressure**: 60 psig

**Pressure Drop**: 6 psi

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# Peoples Service Line Installation Standards

## STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

| Nominal Diameter (inches) | 10 | 20 | 30 | 50 | 70 | 90 | 110 | 125 | 160 | 200 | 250 | 300 | 400 | 500 | 750 | 1,000 | 1,500 | 2,000 | 2,500 | 3,000 |
|----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|-------|-------|-------|-------|
| Inside Diameter (inches)   | 1/2| 1/2| 3/4| 1   | 1   | 1  | 1   | 1.1/4| 1.1/2| 1.5  | 2   | 2.5 | 3   | 4   | 5   | 7.5 | 10   | 15    | 20    | 25    | 30    |
| 0.622                     | 8.095| 9.805| 11.778| 14.603| 18.782| 24.818| 33.963| 46.224| 62.990| 83.320| 108.030| 144.170| 216.000| 288.000| 360.000| 450.000| 540.000| 630.000| 720.000|
| 1.1/2                     | 510.000| 509.000| 436.976| 373.025| 323.398| 283.843| 250.375| 226.229| 208.978| 195.376| 184.332| 174.732| 166.208| 158.764| 151.410| 144.150| 137.990| 131.940| 126.000|
| 1.5                       | 204.893| 204.522| 173.600| 152.704| 137.568| 125.942| 116.842| 109.510| 102.509| 96.164| 91.100| 86.812| 84.502| 82.160| 79.845| 77.540| 75.255| 73.080| 71.025|

## PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>CTS Size (Inches)</th>
<th>0.062 wall</th>
<th>0.090 wall</th>
<th>0.099 wall</th>
<th>0.121 wall</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTS Tubing PE 3408</td>
<td>3/8</td>
<td>3/8</td>
<td>3/8</td>
<td>3/8</td>
</tr>
<tr>
<td>CI SDR 11 IPS Pipe PE 3408/2406</td>
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<td>1.5/8</td>
<td>1.5/8</td>
<td>1.5/8</td>
</tr>
<tr>
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<td>335.494</td>
<td>335.494</td>
<td>335.494</td>
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<td>173.001</td>
<td>173.001</td>
<td>173.001</td>
</tr>
<tr>
<td>0.121 wall</td>
<td>146.079</td>
<td>146.079</td>
<td>146.079</td>
<td>146.079</td>
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</tbody>
</table>

## SDR 11.5 IPS Pipe PE 2066

<table>
<thead>
<tr>
<th>CTS Size (Inches)</th>
<th>1.5/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDR 11.5 IPS Pipe PE 2066</td>
<td>1.5/8</td>
</tr>
<tr>
<td>3/8</td>
<td>3/8</td>
</tr>
<tr>
<td>0.062 wall</td>
<td>335.494</td>
</tr>
<tr>
<td>0.090 wall</td>
<td>218.000</td>
</tr>
<tr>
<td>0.099 wall</td>
<td>173.001</td>
</tr>
<tr>
<td>0.121 wall</td>
<td>146.079</td>
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</tbody>
</table>

## SDR 13.5 IPS Pipe PE 2066

<table>
<thead>
<tr>
<th>CTS Size (Inches)</th>
<th>1.5/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDR 13.5 IPS Pipe PE 2066</td>
<td>1.5/8</td>
</tr>
<tr>
<td>3/8</td>
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</tr>
<tr>
<td>0.062 wall</td>
<td>335.494</td>
</tr>
<tr>
<td>0.090 wall</td>
<td>218.000</td>
</tr>
<tr>
<td>0.099 wall</td>
<td>173.001</td>
</tr>
<tr>
<td>0.121 wall</td>
<td>146.079</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>CTS Size (Inches)</th>
<th>1.5/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTS Tubing PE 3408</td>
<td>3/8</td>
</tr>
<tr>
<td>CI SDR 11 IPS Pipe PE 3408/2406</td>
<td>1.5/8</td>
</tr>
<tr>
<td>3/8</td>
<td>3/8</td>
</tr>
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<td>0.062 wall</td>
<td>335.494</td>
</tr>
<tr>
<td>0.090 wall</td>
<td>218.000</td>
</tr>
<tr>
<td>0.099 wall</td>
<td>173.001</td>
</tr>
<tr>
<td>0.121 wall</td>
<td>146.079</td>
</tr>
</tbody>
</table>

---

**Inlet Pressure:** 70 psig  
**Pressure Drop:** 7 psi

---

**Atmospheric Pressure:** 14.7 psia  
**Gas Specific Gravity:** 0.6  
**Gas Viscosity:** 7.35E-06 lbm/sec
### Peoples Service Line Installation Standards

#### STEEL PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>Nominal Diameter (Inches)</th>
<th>Inside Diameter (Inches)</th>
<th>Length of Pipe (Feet)</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>50</th>
<th>70</th>
<th>80</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
<th>1000</th>
</tr>
</thead>
</table>

#### PLASTIC PIPE - Cubic Feet of Gas per Hour, Maximum Capacities

<table>
<thead>
<tr>
<th>Nominal Diameter (Inches)</th>
<th>CTS Size (Inches)</th>
<th>CTS Tubing PE 3408</th>
<th>CTS Tubing PE 3408</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>0.999</td>
<td>9.500</td>
<td>9.500</td>
</tr>
<tr>
<td>1/2</td>
<td>0.999</td>
<td>9.500</td>
<td>9.500</td>
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<tr>
<td>1</td>
<td>1.099</td>
<td>9.500</td>
<td>9.500</td>
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<tr>
<td>1 1/4</td>
<td>1.399</td>
<td>9.500</td>
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</tr>
<tr>
<td>1 1/2</td>
<td>1.399</td>
<td>9.500</td>
<td>9.500</td>
</tr>
</tbody>
</table>

### Additional Information

- **Atmospheric Pressure**: 14.7 psia
- **Gas Specific Gravity**: 0.6
- **Gas viscosity**: 0.003
- **Inlet Pressure**: 80 psig
- **Pressure Drop**: 8 psi

---

37
Appendix 2

Weak Link Chart
<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Material Density</th>
<th>SDR</th>
<th>Plastic Pipe Used</th>
<th>Shear Pin Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/4&quot; ips</td>
<td>PE2406/PE2708</td>
<td>10</td>
<td>1 1/4&quot; cts 121&quot; w PE3408</td>
<td>800</td>
</tr>
<tr>
<td>2&quot;</td>
<td>PE2406/PE2708</td>
<td>11</td>
<td>1 1/4&quot; cts 121&quot; w PE3408</td>
<td>1,450</td>
</tr>
<tr>
<td>3&quot;</td>
<td>PE2406/PE2708</td>
<td>12</td>
<td>1 1/4&quot; cts 121&quot; w PE3408</td>
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<tr>
<td>4&quot;</td>
<td>PE2406/PE2708</td>
<td>14</td>
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<tr>
<td>6&quot;</td>
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<td>14</td>
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<tr>
<td>8&quot;</td>
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<td>14</td>
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<td>PE3408</td>
<td>12</td>
<td>1 1/4&quot; cts 121&quot; w PE3408</td>
<td>550</td>
</tr>
<tr>
<td>2&quot;</td>
<td>PE3408</td>
<td>11</td>
<td>1 1/4&quot; cts 121&quot; w PE3408</td>
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<td>PE3408</td>
<td>11</td>
<td>1 1/4&quot; cts 121&quot; w PE3408</td>
<td>3,650</td>
</tr>
<tr>
<td>4&quot;</td>
<td>PE3408</td>
<td>11</td>
<td>2&quot; ips SDR 11 PE3408</td>
<td>6,000</td>
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<tr>
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<tr>
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<td>11</td>
<td>1 1/4&quot; cts 121&quot; w PE4710</td>
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<td>PE4710</td>
<td>11</td>
<td>2&quot; ips SDR 11 PE2708</td>
<td>4,250</td>
</tr>
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<td>2&quot; ips SDR 11 PE4710</td>
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<td>3&quot; ips SDR 11 PE4710</td>
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<td>11</td>
<td>4&quot; ips SDR 13.5 PE2708</td>
<td>18,150</td>
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<tr>
<td>8&quot;</td>
<td>PE4710</td>
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<td>6&quot; ips SDR 13.5 PE2708</td>
<td>25,700</td>
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<td>6&quot; ips SDR 13.5 PE2708</td>
<td>30,700</td>
</tr>
<tr>
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<td>PE4710</td>
<td>11</td>
<td>8&quot; ips SDR 13.5 PE2708</td>
<td>56,150</td>
</tr>
<tr>
<td>12&quot;</td>
<td>PE4710</td>
<td>9</td>
<td>10&quot; ips SDR 13.5 PE2708</td>
<td>67,100</td>
</tr>
</tbody>
</table>
Appendix 3

Application Specific Installation Diagrams
Peoples Requirements

(1) Use only Peoples-approved materials.
(2) Install continuous lengths of service line tubing, Locator wire, and warning tape.
   Leave coiled with a length at least 7 feet past property line.
(3) Leave a 4 foot by 4 foot excavation, of sufficient depth, to allow for tie in connection.
(4) Ensure that riser, manifold, and exposed houseline are adequately coated to prevent atmospheric corrosion (Paint and/or Wax wrap).
(5) Properly install bracket to ensure adequate support for meter.
(6) Apply pressure test to installed service and leave for Peoples’ inspection.
Peoples Requirements

(1) Use only Peoples-approved materials.
(2) Install continuous lengths of service line tubing. Leave coiled with a length at least 7 feet past property line.
(3) Leave a 4 foot by 4 foot excavation, of sufficient depth, to allow for tie in connection.
(4) Ensure that interior service line, upstream of the meter, is adequately coated to prevent atmospheric corrosion (Paint and/or Wax wrap).
(5) Ensure adequate support for meter.
(6) Apply pressure test to installed service and leave for Peoples’ inspection.
Peoples Requirements

(1) Use only Peoples-approved materials.
(2) Install continuous lengths of service line tubing, Locator wire, and warning tape.
   Leave coiled with a length at least 7 feet past property line.
(3) Leave a 4 foot by 4 foot excavation, of sufficient depth, to allow for tie in connection.
(4) Ensure that riser, manifold, and exposed houseline are adequately coated to prevent atmospheric corrosion (Paint and/or Wax wrap).
(5) Properly install bracket to ensure adequate support for meter.
(6) Ensure that regulator relief is pointed downward, unobstructed, and discharges away from building openings and potential ignition sources.
(7) Apply pressure test to installed service and leave for Peoples’ inspection.
Peoples Requirements:

(1) Use only Peoples-approved materials.
(2) Install continuous length of service line tubing. Leave coiled with a length at least 7 feet past property line.
(3) Leave a 4 foot by 4 foot excavation, of sufficient depth, to allow for tie in connection.
(4) Ensure that riser, manifold, and exposed houseline are adequately coated to prevent atmospheric corrosion. (Paint and/or Wax wrap)
(5) Properly install bracket to ensure adequate support for meter.
(6) Ensure that regulator relief is pointed downward, unobstructed, and discharges away from building openings and potential ignition sources.
(7) SLI to install bonding clamp on existing casing and extend Locator wire up service line riser.
(8) Apply pressure test to installed service and leave for Peoples’ inspection.
Appendix 4

Service Installation Record
SIR Form
### Service Installation Record

<table>
<thead>
<tr>
<th>Service Installation Record</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PNG USE ONLY</strong></td>
</tr>
</tbody>
</table>

**Instructions:** Complete this form and fax to 1-888-846-3259 or email to OPE_ServInst@peoples-gas.com. If gas is required for the first time for this location, please call 1-888-299-38 between 8:00 am and 4:30 pm Monday – Friday to determine if gas is available. Forms not fully completed in their entirety will be rejected.

**NOTE:** For NEW service line installations, this form will not be accepted until AFTER an application has been submitted by the responsible party and received and approved by Peoples Natural Gas.

<table>
<thead>
<tr>
<th>Development/Project Name (Type or Print)</th>
<th>Date Service Line Installed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customer Name</strong></td>
<td><strong>Contact Name for Tie In</strong></td>
</tr>
<tr>
<td><strong>Street Address</strong></td>
<td><strong>City</strong></td>
</tr>
<tr>
<td><strong>Building Type</strong></td>
<td><strong>Residential</strong></td>
</tr>
<tr>
<td><strong>Misc Activity</strong></td>
<td><strong>Manifold Repair</strong></td>
</tr>
<tr>
<td><strong>Riser Material</strong></td>
<td><strong>Gas Distribution</strong></td>
</tr>
<tr>
<td><strong>Riser Size</strong></td>
<td><strong>Riser Material</strong></td>
</tr>
<tr>
<td><strong>Service Line (Curb to Meter)</strong> - Check All That Apply</td>
<td></td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Plastic</td>
</tr>
<tr>
<td><strong>Minimum Test Pressure</strong></td>
<td>Indicate the type of test performed by checking the appropriate box:</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Plastic</td>
</tr>
<tr>
<td><strong>Low Pressure System (Ounces)</strong></td>
<td><strong>Regulated Pressure System</strong></td>
</tr>
<tr>
<td><strong>Aandum</strong></td>
<td>Direct Burial</td>
</tr>
<tr>
<td><strong>Installing Firm</strong></td>
<td><strong>Firm Name</strong></td>
</tr>
<tr>
<td><strong>Address</strong></td>
<td><strong>City</strong></td>
</tr>
</tbody>
</table>

**Note:** By signing this form, the installer attests that they installed or repaired and tested the service line and/or meter in accordance with applicable codes and standards including, but not limited to:

**INSTALLATION**

1. Material used in this installation meet Peoples Natural Gas approved standards.
2. A tracer wire that is of 12 gauge solid copper wire with a yellow thermoplastic coating was installed (All services).
3. Tracer wire was properly installed and checked for continuity across its service length.
4. Service line is installed at a minimum depth of 18 inches or encased.
5. New service is not run under steps, porches or crawl spaces.
6. Meter manifold installed does not block a fire escape.
7. Meter manifold is properly supported.

**INSTALLER**

1. He/She is Operator Qualified in accordance with the requirements set forth in 49 CFR 192, Subpart N. This means that the installer has been evaluated by a Peoples Natural Gas approved third-party qualifier and has been deemed qualified to perform the various covered tasks as outlined with installation of natural gas service lines. (3 year re-qualification required).
2. He/She has been evaluated and qualified by a Peoples Natural Gas approved third-party qualifier to join plastic pipe utilizing mechanical couplings. (1 year re-qualification required).
3. His/Her employer administers a Drug & Alcohol Testing Program that meets the requirements of 49 CFR 199, including random testing.

**Go to** [www.peoples-gas.com](http://www.peoples-gas.com) **to download this form in PDF format**

**Form No. 700116 (Feb 2019)**
Sample Form Completed

If repair/replacing riser only we still need buried line type, tracer wire, service length and depth.

This refers to a riser where the center pipe must be inserted through the riser shield and attached to the riser head.

The piping must be one of the following approved manufacturers and be no older than 2 years from the date stamped on pipe.

Refers to the numbers found on the pipe:
- Performance Pipe Disciples – information before date after D2513
- Duraline Poly Pipe – information before date and after CEC
- US Poly Company – information after CEC
- Charter Plastic – 16 Alpha/numeric code after the Bar code
- Old Creek Plastic – 5 numeric numbers that come after date

At this time, PUG only accepts 3rd Party Qualifications through PUR or U.I.U.

All pressure tests are a minimum of 90 PSI/G for 10 minutes unless the pipe is 3400 or 4710 High Density which requires a minimum 10 minute 150 PSI/G pressure test. Refer to 1 1/8 O.D. Others refer to pipe larger than 2.

Backfilling the ditch or trench is an OQ covered task and must be performed or overseen by a qualified.

Be sure to include your unique OQ Number. This will be used by PUG for Verification purposes.
Appendix 5

Standard Service Line Spotting Practices
Building Lots with Existing Gas Taps: The installer shall communicate with the Peoples Natural Gas Engineering Department prior to service line installation to verify the existence of a pre-installed gas tap. If a tap already exists at the new construction site, the service line shall be installed in a straight line from the proposed meter location to existing tap.

Service Lines spotted on the front wall: The Service Line must be perpendicular to the road from the front wall.

Service Lines spotted on the sidewall: The Service Line riser must not be more than 10 feet from the front corner of the building. The Service Line must go out and parallel the foundation at a distance of 3 to 5 feet off the sidewall, and then extend in a direction perpendicular to the road.

Meters considered to be at risk of vehicular damage: Customer must provide bollards or barriers to protect the meter when in close proximity of vehicle traffic (parking lots, driveways, etc.)

Service Lines spotted Remote: A gas meter must be located within 100 feet of the front property line of the house to be served (or the property line closest to the main line to be tapped). When the house is in excess of 100 feet of the property line, a Company representative shall be consulted prior to service line installation to determine the remote location of the meter. Consideration to potential vehicular damage will be given when determining meter location.

Service Lines with an MAOP in excess of 60 psig: A service line with a Maximum Allowable Operating Pressure (MAOP) in excess of 60 psig shall have a meter located in the immediate area of the mainline to allow adequate space for required regulation devices. Installers should consult with a Company representative to determine the meter location when this condition exists.

Buried House Lines Downstream of a Remote Meter: The maximum combined length of the service line (main to meter) and the buried house line (meter to building), shall not exceed 1000 feet without approval by Peoples management.
Standard Service Spotting

Standard Service Line & Meter locations

Building

5' Max

Meter

Meter

Curbbox

Curbbox

Curbbox

Mainline

5' Max

10' Max
Locator Wire: 8 gauge solid copper, yellow thermoplastic insulation only. Locator wire continuity will be verified before service is connected.
Locator Wire: 8 gauge solid copper, yellow thermoplastic insulation only. Locator wire continuity will be verified before service is connected.
Installer must be DOT Operator Qualified

Locator Wire: 8 gauge solid copper, yellow thermoplastic insulation only. Locator wire continuity will be verified before service is connected.
Appendix 6

Meter Installation Measurements
Drawing No. 1

TYPICAL METER INSTALLATION AT BUILDING USING PLASTIC PIPE SERVICE LINE

CURB VALVE
END CONSUMER LINE
GAS COMPANY APPROVED PLASTIC PIPE
COATED SOLID COPPER #12 LOCATING WIRE
MECHANICAL COUPLING APPROVED FOR PLASTIC PIPE
WARNING TAPE IS TO BE INSTALLED 6"-12" BELOW FINISHED GRADE ON DIRECT BURIALS

NOTES: • Anodes may be required on certain prefabricated risers, check with supplier or Peoples representative.
• Locating wire should be buried under, or along side the pipe with a 3"-6" clearance, but should not be wrapped around the pipe.

See 192.381 for excess flow valve and curb valve installation.

SUPPLIED BY GAS COMPANY

Drawing No. 2

TYPICAL REMOTE METER INSTALLATION USING PLASTIC PIPE SERVICE LINE

METER (REFER TO DRAWING #3)
NON SLIP COUPLING APPROVED FOR PLASTIC PIPE
GAS COMPANY APPROVED PLASTIC PIPE
COATED SOLID COPPER #12 LOCATING WIRE
LOCATING WIRE TO TERMINATE ABOVE GROUND WRAPPED AROUND BRACKET OR RISER

NOTES: • Anodes may be required on certain prefabricated risers, check with supplier or Peoples representative.
• Locating wire should be buried under, or along side the pipe with a 3"-6" clearance, but should not be wrapped around the pipe.

See 192.381 for excess flow valve and curb valve installation.

SUPPLIED BY GAS COMPANY
Typical Service Line and Meter Set

Drawing No. 3

Note: Consumer to end service line 6" to 12" above finished grade. Meter to be installed by Peoples.

Service line depth:
12" Minimum below finished grade – Private Property
18" Minimum below finished grade – Private Property
36" Maximum below finished grade

If an underground structure prevents installation at these depths, the service line must be designed to withstand external loads.
Typical Mobile Home Service Line and Meter Installation

Drawing No. 4

Service line depth:
12” Minimum below finished grade – Private Property
18” Minimum below finished grade – Private Property
36” Maximum below finished grade

If an underground structure prevents installation at these depths, the service line must be designed to withstand external loads.
Drawing No. 5

UNDER GROUND ENTRY
TO BE USED ONLY IF
ABOVE GROUND ENTRY
IS NOT POSSIBLE

WALL

SEAL

SLEEVE

SERVICE LINE

VENT

12" MIN.

Drawing No. 5-A

TYPICAL INSTALLATION AT BUILDING WITH METER
LOCATED AWAY FROM THE BUILDING
(USING PREFABRICATED RISERS).

VALVE MUST BE INSTALLED
AT WALL OF BUILDING.

WALL

SLEEVE

WARNING TAPE 6'-12'
BELOW GRADE

* DISTANCE FROM WALL TO END OF
THREAD SHOULD MATCH DISTANCE
OF BRACKET FROM WALL TO PIPE.

REVISED 7/08/14
TYPICAL METER AND REGULATOR INSTALLATION
Appendix 7

Welding Guidelines
Welding Qualification Policy

(Residential Pipelines)

Welder Qualifications

All welded natural gas service lines installations must meet the requirements of the Code of Federal Regulations; Title 49, Part 192- “Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards”. To so comply, any welding performed as a part of such installation must be performed only by welders that are Operator Qualified in the manner set forth in Section 192.227 and subject to the limitations set forth in Section 192.229 of the above.

If any portion of the Customer’s Service Line has been joined by the welding process, the customer or installer must indicate on the Request for Service Form that the welder has been certified and Operator Qualified, prior to welding, according to the requirements set forth in this Appendix.

All welders, welding gas lines up to 60 PSIG M.A.O.P. must be certified once per calendar year not to exceed 15 months.

However, a welder may not weld on pipe to be operated at a pressure that produces a hoop stress of 20 percent or more of SMYS unless within the preceding 6 calendar months the welder has had one weld tested and found acceptable under the sections 6 or 9 of API Standard 1104 (incorporated by reference, see §192.7). Alternatively, welders may maintain an ongoing qualification status by performing welds tested and found acceptable under the above acceptance criteria at least twice each calendar year, but at intervals not exceeding 71/2 months. A welder qualified under an earlier edition of a standard listed in §192.7 of this part may weld but may not re-qualify under that earlier edition.

The Company will, upon request, supply the names of the testing agencies which it has approved to administer qualification tests. Arrangements for such tests must be made directly with the testing agency by the installer or person desiring such qualification test. The testing agency will inform the Company of all certifications made through its qualification testing, and such information must include the following:

i. Welder’s Name
ii. Social Security Number
iii. Testing Agency
iv. Date Tested
v. Test Witness
vi. Welding Process (SMAW, LH, GMAW)
vii. Test Method Peoples Natural Gas Service Line Installation Standards

Welders qualified by the testing agency will be furnished an identification card by the agency, attesting to their certification. Welders will make this card available for inspection by a representative of the Company on request.

The welder’s card must show that he is qualified to weld pipe and what welding procedure he is qualified to use. These tests would be recorded on his card.
i. The welder’s card must state that he has qualified in welding steel pipe not plate.
ii. The welder’s card must show what welding procedure he is qualified to use. These tests
must be recorded on his card.

A card issued by any recognized testing agency will be honored if the test given meets the
requirements specified.

Approved Qualifying Agency:

Team Industrial Services, Inc.
4525 Campbell’s Run Road
Pittsburgh, Pennsylvania 15205
412-787-8690